Contents

Parts Setup

Create a new Part in MaintScape by clicking on the main menu window ‘Parts’ icon, then select pop-up action item ‘New Part…’.

Enter at least the Part ‘Code’ and ‘Name’. The part code, or part ID, is the internal code you will use to identify the Part. The code value should be short enough for typing and meaningful. The part name is a longer description of the part.

Other fields which you may want to specify on the part window ‘main’ tab page are:

Class	General ‘part classification’ code – e.g. nut, bearing, pump, filter, etc.
Inventoried (checkbox)	Check this box if you wish MaintScape to manage Inventory counts for this part (MaintScape Inventory Control module is required). See ‘additional setup for inventoried parts’ documentation below.
Unit of Measure	Units of measure in which the parts are used – e.g. ‘each’, ‘inch’, ‘liter’. Note: Order units may be different – e.g. ‘box’, ‘foot’, ‘case’. To avoid rounding problems, unit of measure should be smaller than any order unit which may be used for the part.
Average Price	Initial average price for costing part usage. Average price will be adjusted for inventoried parts when parts are received – see documentation section ‘Receipt/Return - Status Not Finalized vs. Issued’ below.

You may wish to specify Vendors for the part on the part window ‘Vendor’ tab page. For each vendor, you may optionally specify pricing levels – e.g. $2.00 each, $3.50 for 2, $10.00 for a case.

Additional Setup for Inventoried Parts

Parts managed under inventory control are marked with a check in the 'Inventoried' checkbox on the 'main' tab page of the part window. You must then specify at least one part location where inventory is stored for the part. This is done on the part window 'Inventory' tab.

Inventory locations for a part are listed in the 'inventory locations' group. Click the 'new' button to the right of the group to add a new location. The resulting pop-up window asks for the part location, and optionally min/max quantities for the part at this location. The best way to select a part location code is to right-mouse click on the part location field, then select pop-up action item 'Search using Explorer…'. Your part location hierarchy can be set up in MaintScape Explorer if this has not been done already.

See 'Parts Quantity Terminology' documentation below for description of the various quantity values in the 'Summary' group.

Purchase Requisitions, Purchase Orders, Receipts and Matchings

Purchase Requisitions

Purchase Requisitions are documents used internally within a company to request ordering of parts. MaintScape Purchase Requisition module is required to create purchase requisitions.

Create a new purchase requisition in MaintScape by clicking on the main menu window 'Purchasing' icon, then select pop-up action item 'New Purchase Requisition…'. Create purchase requisition line items by clicking the 'new' button to the right of the PR Items list.

Note that each PR line item may specify a different vendor. This is not the case for purchase orders, which are sent to a particular vendor.

Purchase Orders

Purchase Orders are documents sent to external vendors to order parts. MaintScape Purchase Orders module is required to create purchase orders.

Create a new purchase Order in MaintScape by clicking on the main menu window 'Purchasing' icon, then select pop-up action item 'New Purchase Order…'. Create purchase order line items by switching to the 'PO Items' tab page, then clicking the 'new' button to the right of the PO Items list.

Purchase Orders may also be created from Purchase Requisitions. See documentation section 'Ordering Parts from a Purchase Requisition' below.

Receipts/Returns

Receipts and Returns are types of Part Inventory Transactions. Other transaction types include Issue, Adjust, Count, Transfer, etc. MaintScape Inventory module is required to create receipt or return transactions.

Receipt/return inventory transactions may be created from purchase orders/requisitions (see documentation section 'Receiving/Returning Parts from a Purchase Order/Requisition') or created manually (see documentation section 'Receiving/Returning Parts Manually').

Inventory transactions are created for inventoried parts only - receipt of non-inventoried parts is recorded directly within the source PO or PR item.

Status Not Finalized vs. Issued

Receipt and return inventory transactions may be saved as either status 'not finalized' or 'issued'. A 'not finalized' transaction may be modified or deleted (subject to appropriate security permissions), and may be saved as status ‘issued’. An ‘issued’ transaction may not be modified or deleted, however its effect can be undone by being ‘reversed’.

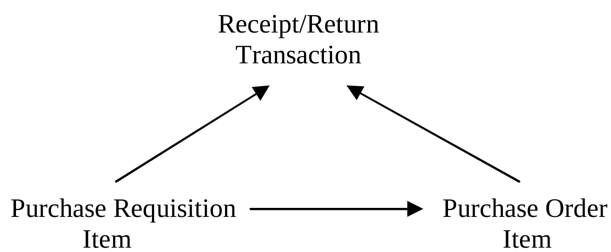
Both ‘not finalized’ and ‘issued’ transaction will affect on hand quantities – e.g. a receipt for 2 units of part ‘x’ will increase the on hand quantity of part ‘x’ by 2. However a ‘not finalized’ transaction should not be considered ‘final’ and should not be submitted to a financial system. Receipt and return inventory transactions alter the part’s average price, however this only occurs once the transaction is status ‘issued’.

Create a ‘not finalized’ transaction to record receipt/return of a part when the price is not yet known – i.e. the invoice has not been received or return credit is not yet known. Once price is known, the receipt transaction should be found, modified, and then saved as status ‘issued’. Not finalized inventory transactions matched from a PO or PR can be easily found from the PO or PR window ‘matchings’ page (see ‘matchings’ documentation below).

Inventory transactions should not remain status ‘not finalized’ for any length of time (such cases can easily be found by performing an inventory transaction search).

Matchings

Matchings relate purchase requisitions, purchase orders and receipt/return transactions. They also provide work flow within the part ordering process – for example, quantities requisitioned on a PR are then ordered on a PO and subsequently received via a receipt.



Lines in the above diagram indicate which MaintScape objects may be matched, and the direction of the matching. In particular:

- Part quantities can be matched from a PR Item to a PO Item. I.e. requisitioned quantities are placed on order.
- Part quantities can be matched from a PO Item to a receipt or return inventory transaction. I.e. ordered quantities are either received from the vendor or returned.
- Part quantities can be matched from a PR Item to a receipt or return inventory transaction. I.e. quantities are either received from a vendor or returned based on the internal PR document.

MaintScape ensures the sum of quantities matched from or to any object does not exceed the object’s quantity. For example, the sum of all quantities matched from a PO item cannot exceed the quantity of the PO Item. MaintScape also ensures the matching partners identify the same part measured in the same unit of measure.

In the simplest and most common case, there is exactly one matching from or to an object. For example, there is usually a single matching from a PO item for 5 units of part ‘x’ to a receipt transaction of 5 units of part ‘x’. In this example, the PO item is fully received and the receipt is fully accounted for. In MaintScape terminology, both the PO item and the receipt transaction are said to be ‘fully matched’. I.e. all PO item units are matched (to the receipt) and all receipt items are matched (from the PO item).

More complicated matching scenarios handle cases such as partial receipt. For example, a PO item for 5 units of part ‘x’ is matched to a receipt of 3 units of part ‘x’. The PO item is now only ‘partially matched’, which indicates the PO item is only ‘partially received’. A new receipt is created when the remaining 2 units arrived, and the receipt is then matched from the PO item. Now the PO item (and both receipts) are 'fully matched'.

A PR or PO is considered fully received when all line items are fully matched. A receipt is considered fully accounted for when it is fully matched.

Very complicated matching scenarios are possible, some more complicated than should ever occur, however they are all based on the same principles as described above. For example:

> PO item 1 is for 5 units of part 'x' and PO item 2 is for 3 units of part 'x'. 2 units of PO item 1 are matched to a receipt for 2 units of part 'x' and the remaining 3 units are matched to another receipt for 5 units. PO item 1 is now fully matched. 2 units of PO item 2 are matched to the receipt for 5 units. The receipt for 5 units is now fully matched, however 1 unit of PO item 2 is not matched. 1 units of PO item 2 are matched to a return transaction for 1 unit, resulting in 2 units of PO item 2 as not matched. 2 units of PO item 2 are matched to a third receipt transaction for 2 units. Now all PO items (and all inventory transactions) are fully matched.

Parts Quantity Terminology

Quantity Type	Description
On Hand	Inventory quantity of a part.
Committed	Quantity of a part listed on status 'open' Work Orders. Committed quantities of a part are considered 'spoken for' or 'not available'.
Reserved	(reserved for future implementation)
Available	Inventory quantity of a part considered available. Computed as: (On Hand quantity) – (Committed quantity) – (Reserved quantity).
Minimum	Minimum quantity is optionally specified for a particular part location in the part window, 'inventory' tab. For example, minimum quantity for part 'x' may be 5 at location 'a' and 3 at location 'b'.
Maximum	Maximum quantity is optionally specified for a particular part location in the part window, 'inventory' tab. For example, maximum quantity for part 'x' may be 10 at location 'a' and 6 at location 'b'.
(Available < Minimum)	Amount by which the available quantity of a part at a part location is less than the minimum. For example, if the available quantity is 3 and the minimum is 5, then (Avl < Min) quantity is 2. If the available quantity is 5 and the minimum is 3, then (Avl < Min) quantity is 0.
(Available > Maximum)	Amount by which the available quantity of a part at a part location is greater than the maximum. For example, if the available quantity is 3 and the maximum is 5, then (Avl > Max) quantity is 0. If the available quantity is 5 and the maximum is 3, then (Avl > Max) quantity is 2.
Requisitioned	Unmatched quantity of a part listed on status 'open' Purchase Requisitions. For example, say an 'open' PR has an item requisitioning 5 units of part 'x', 2 of which are received (matched to a receipt). Then 3 units of part 'x' are considered to be 'requisitioned'. Status 'open' Purchase Requisitions are considered to be approved, therefore 'requisitioned quantity' is considered to be an approved quantity.
Pending Requisition	Unmatched quantity of a part listed on status 'planned' or status 'pending approval' Purchase Requisitions. (see 'requisitioned' description for explanation of 'unmatched'). Status 'pending approval' and 'planned' Purchase Requisitions are NOT

	considered to be approved, therefore 'pending quantity' is NOT considered to be an approved quantity.
Active Requisition	Computed as: (Requisitioned quantity) + (Pending requisition quantity)
On Order	Unmatched quantity of a part listed on status 'open' Purchase Orders. This quantity for POs is analogous to Requisitioned quantity for PRs.
Pending Order	Unmatched quantity of a part listed on status 'planned' or status 'pending approval' Purchase Orders. This quantity for POs is analogous to Pending Requisition quantity for PRs.
Active Order	Computed as: (On Order quantity) + (Pending Order quantity)
Pending	Computed as: (Available quantity) + (Requisitioned quantity) + (On Order quantity). This is the in house available quantity augmented by quantities on approved PR/POs. I.e. this is a quantity which can be counted on to become available.
Planned	Computed as: (Available quantity) + (Active Requisition quantity) + (Active Order quantity). This is the in house available quantity augmented by quantities on approved AND unapproved PR/POs. I.e. this is a quantity which cannot necessarily be counted on to become available.

Searching for Parts to re-order

Intuitively, a part should be re-ordered when its on hand quantity is less than its minimum quantity. MaintScape works this way, however there are some complicating factors:

1. On hand may be less than minimum, however the part should not be re-ordered if an existing PR or PO already makes up the shortfall quantity.
2. On hand and minimum quantities are specified for specific part locations. A part may be stored at more than one part location (part window, 'inventory' tab), and some locations may be above minimum others are below minimum.

Parts to re-order are found using the Part Search window: Click main menu window 'Parts' icon, then select pop-up action item 'Parts Search and Report…'. Flip the 'criteria' notebook control to the 'Inv Re-order' tab. Click the 'action' button on the tab page, then select pop-up action item 'Standard Re-order Query'. Notice that this sets search criteria Select Inventoried Parts = 'Yes', and:

(Active Order/Requisition) less than (Available < Min) by 0%

This sounds very confusing, however should become clear when considering the definitions of the quantity terms (see 'Parts Quantity Terminology' documentation above) and the following explanation.

'Active Order/Requisition' is the sum of 'Active Order' quantity plus 'Active Requisition' quantity. This is the total unmatched quantity of a Part listed on 'active' PRs and POs. In other words, this is the total quantity of a Part which is either ordered/requisitioned or planning to be ordered/requisitioned.

'Available < Minimum' is the sum of 'Avl < Min' for all locations at which the part is stored. For example:

Inv Location for Part 'x'	Minimum Quantity	Available Quantity	(Avl < Min)
Warehouse 1, Row A, Bin 52	3	4	**0**
Warehouse 2, Row C,	5	3	**2**

Bin 23			
Warehouse 3, Row J, Bin 12	4	2	**2**

Total 'Available < Minimum' for part 'x' is therefore 2 + 2 = 4. If the 'Active Order/Requisition' quantity for Part 'x' is 4 or greater, then part 'x' does not have to be re-ordered as existing orders/requisitions already account for the shortfall. On the other hand, if 'Active Order/Requisition' quantity for Part 'x' is 0 (no active orders or requisitions) or less than 4, then the part should be re-ordered.

The above is the basis for parts re-ordering in MaintScape. Note that the search criteria support more complex related searches. For example:

1. Do not consider quantities on status 'pending approval' or 'planned' PO/PRs when searching by 'On Order/Requisition' rather than 'Active Order/Requisition'.
2. Only identify parts which are 'significantly' in need of re-ordering by using the 'exceed range by x %' criteria field.

Requisitioning/Ordering Parts from a Parts Search

The 'Part Search' window lists parts to re-order after executing a 'parts re-order' query (see 'Searching for Parts to re-order' above). You can then click the 'Order or Requisition selected Parts' button to add line items to a PR or PO for hilited part records in the search results list. The button provides the following pop-up options:

Requisition Parts – to new Purchase Requisition	Add PR items to a Purchase Requisition which will be newly created.
Requisition Parts – to PR of current PR window	Add PR items to the Purchase Requisition displayed in the current visible Purchase Requisition window.
Order Parts – to new Purchase Order	Add PO items to a Purchase Order which will be newly created.
Requisition Parts – to PO of current PO window	Add PO items to the Purchase Order displayed in the current visible Purchase Order window.

Default values provided for created PR or PO line items are:

- The part's default vendor is used as defined in the part window, 'vendors' tab page – except when adding a line item to an existing PO which already specifies a vendor.
- Pricing is set based on the default 'Vendor Item' for the default vendor. Vendor items identify pricing levels –e.g. $2.00 each, $3.50 for 2, $10.00 for a case, and are defined for vendors in the part window, 'vendors' tab page.
- Order/Requisition quantity is set to bring all inventory locations which are below minimum quantity up to maximum quantity.

All the above default values can be modified once the PR or PO item is created.

Requisitioning/Ordering Parts Manually

Parts are manually ordered or requisitioned by manually adding line items to a new or existing PO or PR. Open the PO or PR window to display the existing PO or PR, or initialized to accept a new PO or PR. If creating a new PO, be sure to specify the vendor before adding line items.

Click the 'new' button to the right of the PO or PR item list to bring up the line item 'inspector' window. You can then specify the part and quantity to order/requisition. Various part quantities are displayed once you enter the part code in order to help you chose a quantity (see ‘Parts Quantity Terminology’ documentation above).

The available ‘vendor items’ (price/quantity levels) for the part are displayed at the bottom of the inspector. You can set the line item price (and ‘vendor’ in the case of a PR item) by double-clicking a vendor item.

Ordering Parts from a Purchase Requisition

The ‘Order Selected PR Item’ button to the right of the PR item list in the PR window creates PO items in a similar manner as the ‘Order or Requisition selected Parts’ button in the ‘Part Search’ window (see ‘Requisitioning/Ordering Parts from a Parts Search’). PO item values are set differently – in particular:

- PO item values are set from PR item values instead of ‘default’ part record values: I.e. vendor (unless already specified for the PO), quantity, order unit, price.
- A matching is created from the PR item to the newly created PO item.

Receiving/Returning Parts from a Purchase Order/Requisition

The ‘Receive Selected PO Item’ and ‘Return Selected PO Item’ buttons to the right of the items list in the PO window create receipt/return inventory transactions respectively for a PO line item. Identical buttons are available for the PR window items list as well. Inventory transactions are created for inventoried parts only - receipt of non-inventoried parts is recorded directly within the source PO or PR item.

Receipt quantity is set to the unmatched quantity of the PR or PO item. Examples:

1. If the PO item is for 2 units of part ‘x’ and none of the units are yet received, then the unmatched quantity is 2 units and the new receipt will default to 2 units.
2. If the PO item is for 4 units of part ‘x’ and 1 of the units is already received, then 1 unit is already matched to a receipt transaction, the unmatched quantity is 3 units and the new receipt will default to 3 units.

The ‘Receive Selected PO/PR Item’ button provides the following pop-up options for creating the receipt inventory transactions:

Interactive Receive - Issued	The receipt is displayed in the Inventory Transaction window as status ‘issued’ but is not yet saved. You can review and modify the receipt before saving it manually.
Interactive Receive – Not Finalized	The receipt is displayed in the Inventory Transaction window as status ‘not finalized’ but is not yet saved. You can review and modify the receipt before saving it manually.
Receive - Issued	The receipt is saved as status ‘issued’ with default values computed from the PO or PR item.
Receive – Not Finalized	The receipt is saved as status ‘not finalized’ with default values computed from the PO or PR item.

When creating a return transaction, the return quantity is set to the matched quantity of the PR or PO item – i.e. the quantity which has already been received. Return transactions can only be created ‘interactively’ – i.e. the return transaction will be displayed in the inventory transaction window for review prior to saving manually.

Receiving/Returning Parts Manually

Create a new receipt or return inventory transaction in MaintScape by clicking on the main menu window ‘Parts’ icon, then select pop-up action item ‘New Part Inventory Transaction…’. Set the transaction type to ‘receipt’ or ‘return’, then manually enter values such as part code, quantity, etc.

Matchings must be manually created for manually created receipt/return inventory transactions (see documentation below). Remember: matchings link a receipt or return transaction to a PO or PR item. Note that matchings are automatically created when receiving/returning a part from a PO or PR item as described above. Matchings are manually created and edited on the 'matchings' tab page of the inventory transaction window (only available for 'receipt' or 'return' transaction types).

Inventory transactions are created for inventoried parts only - receipt of non-inventoried parts is recorded directly within the source PO or PR item.

Processing Invoices

An invoice is received either with the goods or following. The inventory transaction window for receipts has a field to enter the invoice number, however this field is only modifiable if the transaction is being newly entered or is saved as status 'not finalized'. Therefore you should save a receipt as status 'not finalized' if the goods are received in advance of an invoice, and if you want to subsequently be able to enter the invoice number - and correct price data which MaintScape will use to adjust the part average price.

See documentation section 'Status Not Finalized vs. Issued' above.

Creating Matchings Manually

Matchings are described in documentation section 'Matchings' above.

Matchings are viewed, created, modified and deleted on the window for the 'matched-to' MaintScape object. MaintScape objects which can be 'matched-to' are purchase orders and inventory transactions (type 'receipt' or 'return'). Purchase orders are 'matched from' purchase requisitions, and inventory transactions are 'matched from' purchase orders or purchase requisitions.

The purchase order and inventory transaction windows have tab pages to view and edit matchings, and support hot-linking to the 'match-from' object by way of right-mouse button navigation.

Remember: matchings are automatically created when:

1. Creating a PO item from a PR item
2. Creating a receipt or return transaction from either a PO or PR item.